Comparison of CH-53X and CH-47D/F: JHL Profile 1

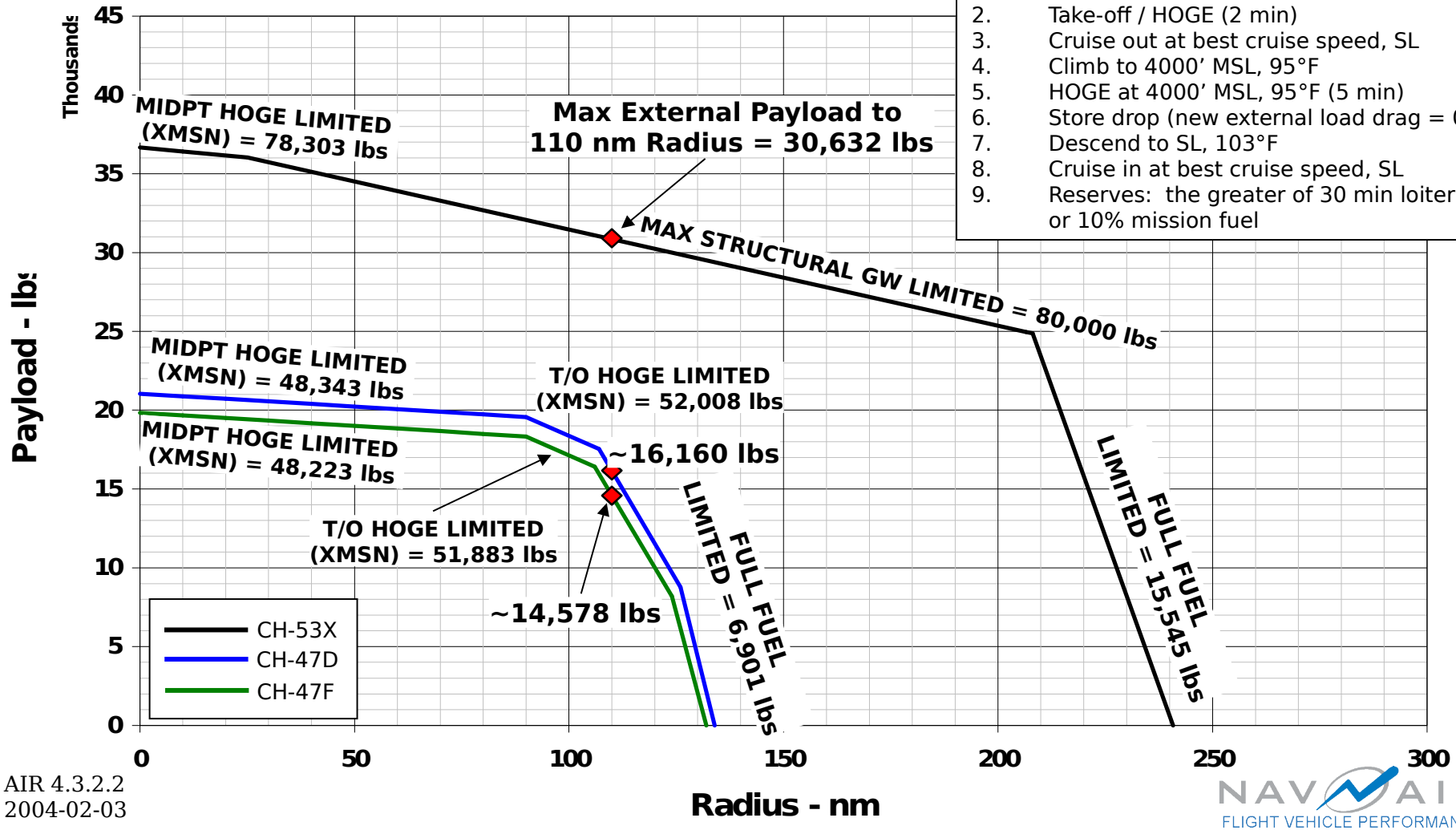
CH-53X
Max Structural GW = 80,000 lbs
Operating Weight Empty = 39,455 lbs, SAC 10/15/03
Fuel Flow 105%
95%*Spec engine pwr of (3) 6,000 SHP engines (installed HP)
CH-53E SPEC XMSN LIMITS
HOGE at 95% of spec engine power at 10 min Rating, 103°F, SL
4th Gen Rotor Pwr Req'd Est., SAC 11/17/03
Clean Aircraft Fe = 68.92 sq ft, SAC 10/15/03

CH-47D/F
Max Structural GW = 54,000 lbs (wartime)
CH-47D OWE = 25,498 lbs
CH-47F OWE = 26,567 lbs
External Load Download = 0.008*GW
Fuel Flow 100%, GA714A min Spec
XMSN Limit = 7500 shp
HOGE @ MRP (10 min, 100% RPM)
(Data Provided by US Army)

56 ft² Ext Load
SL 103°F / 4000' MSL

JHL Profile 1 Mission Description

1. Warm-up at SL 103°F
   (CH-53X: 5 min at 4878 lb/hour)
   (CH-47D/F: 5 min at 3559 lb/hr)
2. Take-off / HOGE (2 min)
3. Cruise out at best cruise speed, SL
4. Climb to 4000' MSL, 95°F
5. HOGE at 4000' MSL, 95°F (5 min)
6. Store drop (new external load drag = 0 ft²)
7. Descend to SL, 103°F
8. Cruise in at best cruise speed, SL
9. Reserves: the greater of 30 min loiter at SL or 10% mission fuel



NAVAIR
FLIGHT VEHICLE PERFORMANCE

Comparison of CH-53X and CH-47D/F: JHL Profile 2

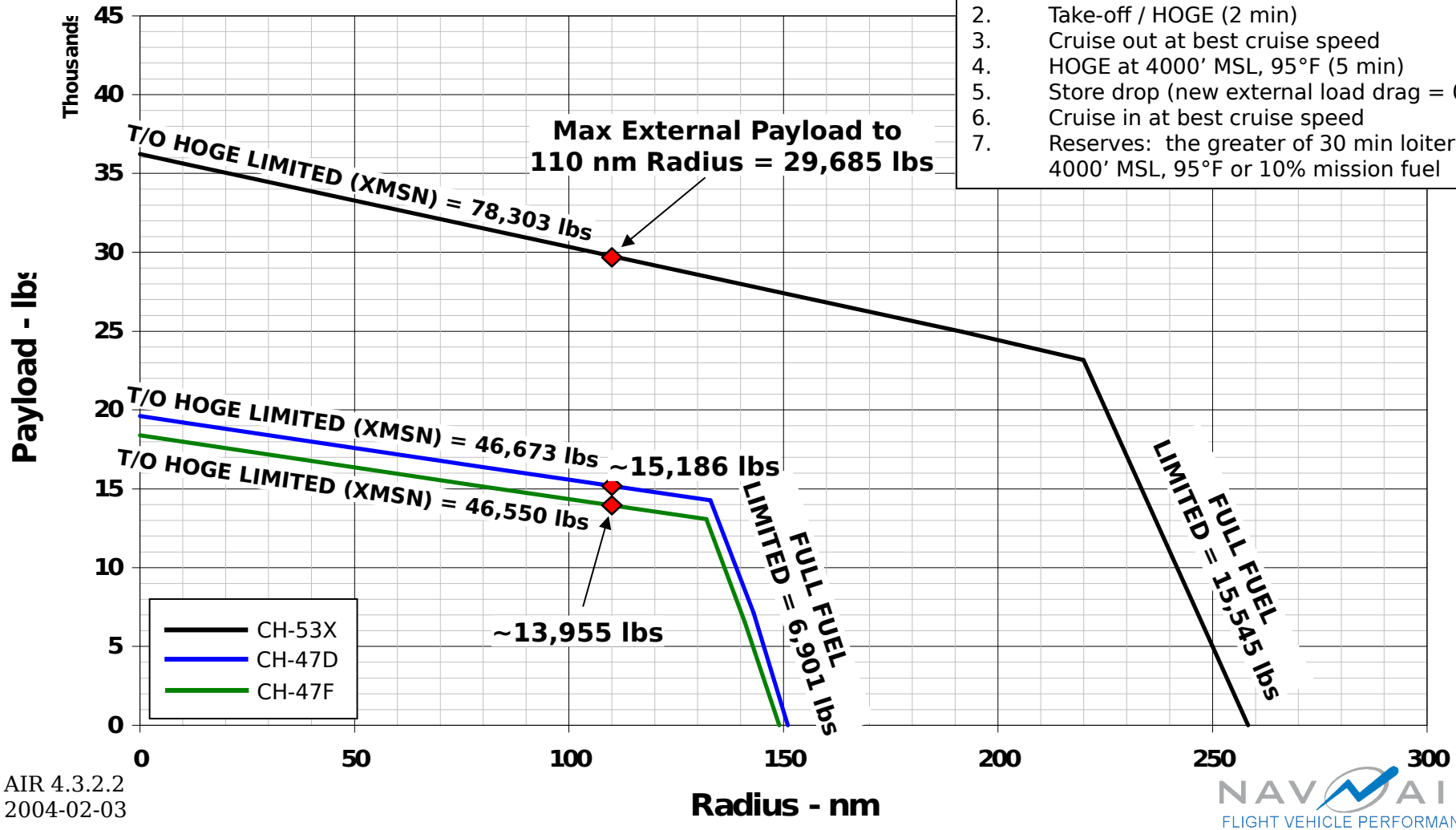
CH-53X
Max Structural GW = 80,000 lbs
Operating Weight Empty = 39,455 lbs, SAC 10/15/03
Fuel Flow 105%
95%*Spec engine pwr of (3) 6,000 SHP engines (installed HP)
CH-53E SPEC XMSN LIMITS
HOGE at 95% of spec engine power at 10 min Rating, 103% MRP
4th Gen Rotor Pwr Req'd Est., SAC 11/17/03
Clean Aircraft Fe = 68.92 sq ft, SAC 10/15/03

CH-47D/F
Max Structural GW = 54,000 lbs (wartime)
CH-47D OWE = 25,498 lbs
CH-47F OWE = 26,567 lbs
External Load Download = 0.008*GW
Fuel Flow 100%, GA714A min Spec
XMSN Limit = 7500 shp
HOGE @ MRP (10 min, 100% RPM)
(Data Provided by US Army)

56 ft² Ext Load
4000' MSL 95°F

JHL Profile 2 Mission Description

1. Warm-up at 4000' MSL, 95°F
   (CH-53X: 5 min at 4667 lb/hour)
   (CH-47D/F: 5 min at 3009 lb/hr)
2. Take-off / HOGE (2 min)
3. Cruise out at best cruise speed
4. HOGE at 4000' MSL, 95°F (5 min)
5. Store drop (new external load drag = 0 ft²)
6. Cruise in at best cruise speed
7. Reserves: the greater of 30 min loiter at 4000' MSL, 95°F or 10% mission fuel



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FLIGHT VEHICLE PERFORMANCE

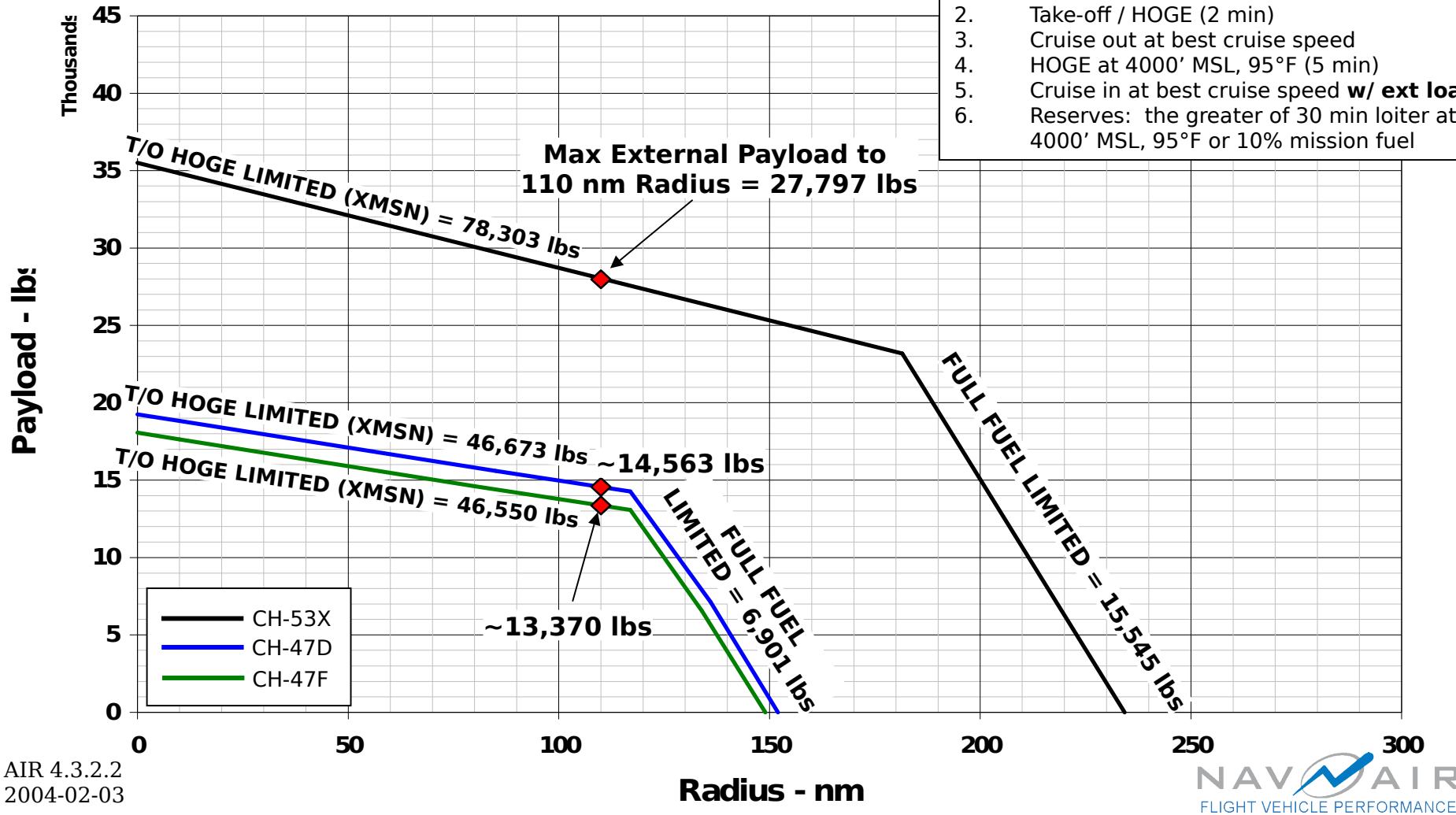
Comparison of CH-53X and CH-47D/F: JHL Profile 3

CH-53X
Max Structural GW = 80,000 lbs
Operating Weight Empty = 39,455 lbs, SAC 10/15/03
Fuel Flow 105%
95%*Spec engine pwr of (3) 6,000 SHP engines (installed HP)
CH-53E SPEC XMSN LIMITS
HOGE at 95% of spec engine power at 10 min Rating, 103% MRP
4th Gen Rotor Pwr Req'd Est., SAC 11/17/03
Clean Aircraft Fe = 68.92 sq ft, SAC 10/15/03

CH-47D/F
Max Structural GW = 54,000 lbs (wartime)
CH-47D OWE = 25,498 lbs
CH-47F OWE = 26,567 lbs
External Load Download = 0.008*GW
Fuel Flow 100%, GA714A min Spec
XMSN Limit = 7500 shp
HOGE @ MRP (10 min, 100% RPM)
(Data Provided by US Army)

56 ft² Ext Load
4000' MSL 95°F

JHL Profile 3 Mission Description
1. Warm-up at 4000' MSL, 95°F
   (CH-53X: 5 min at 4667 lb/hour)
   (CH-47D/F: 5 min at 3009 lb/hr)
2. Take-off / HOGE (2 min)
3. Cruise out at best cruise speed
4. HOGE at 4000' MSL, 95°F (5 min)
5. Cruise in at best cruise speed **w/ ext load**
6. Reserves: the greater of 30 min loiter at 4000' MSL, 95°F or 10% mission fuel



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FLIGHT VEHICLE PERFORMANCE

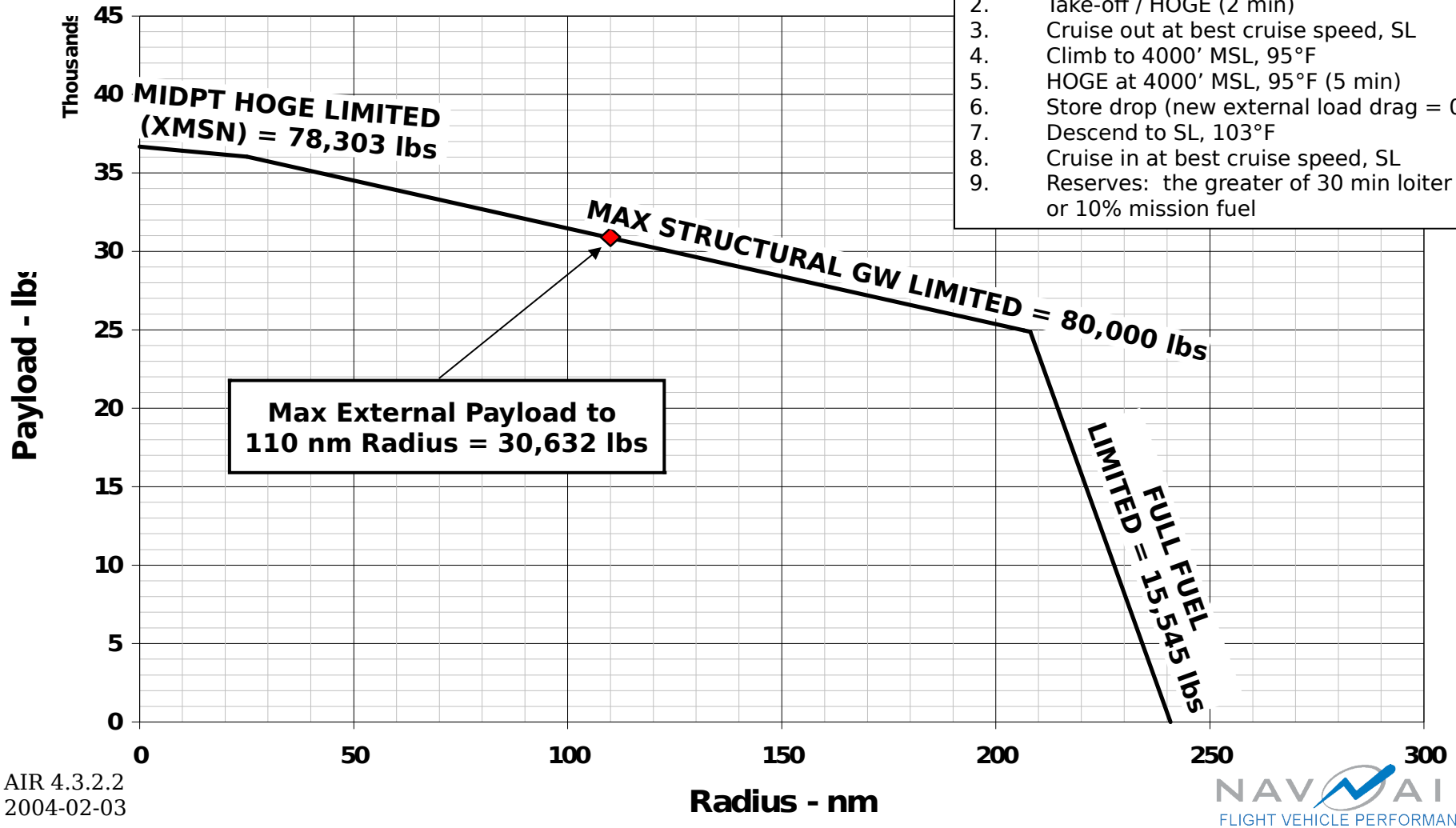
CH-53X: JHL Profile 1

CH-53X
Max Structural GW = 80,000 lbs
Operating Weight Empty = 39,455 lbs, SAC 10/15/03
Fuel Flow 105%
95%*Spec engine pwr of (3) 6,000 SHP engines (installed HP)
CH-53E SPEC XMSN LIMITS
HOGE at 95% of spec engine power at 10 min Rating, 103% N_r
4th Gen Rotor Pwr Req'd Est., SAC 11/17/03
Clean Aircraft Fe = 68.92 sq ft, SAC 10/15/03

56 ft² Ext Load
SL 103°F / 4000' MSL 95°F

JHL Profile 1 Mission Description

1. Warm-up at SL 103°F (CH-53X: 5 min at 4878 lb/hour)
2. Take-off / HOGE (2 min)
3. Cruise out at best cruise speed, SL
4. Climb to 4000' MSL, 95°F
5. HOGE at 4000' MSL, 95°F (5 min)
6. Store drop (new external load drag = 0 ft²)
7. Descend to SL, 103°F
8. Cruise in at best cruise speed, SL
9. Reserves: the greater of 30 min loiter at SL or 10% mission fuel



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FLIGHT VEHICLE PERFORMANCE

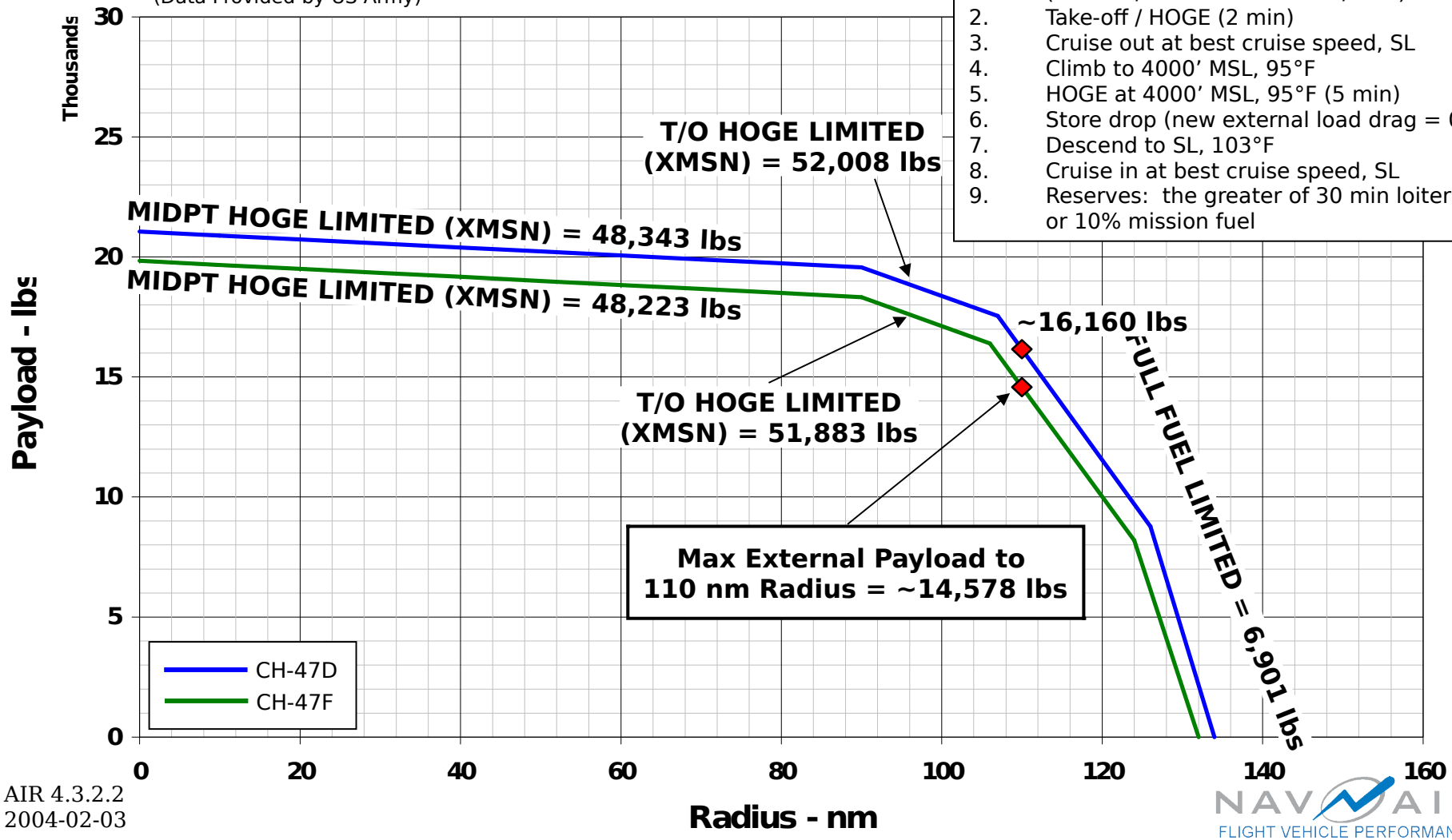
CH-47D/F: JHL Profile 1

CH-47D/F
Max Structural GW = 54,000 lbs (wartime)
CH-47D OWE = 25,498 lbs
CH-47F OWE = 26,567 lbs
External Load Download = 0.008*GW
Fuel Flow 100%, GA714A min Spec
XMSN Limit = 7500 shp
HOGE @ MRP (10 min, 100% RPM)
(Data Provided by US Army)

56 ft² Ext Load
SL 103°F / 4000' MSL 95°F

JHL Profile 1 Mission Description

1. Warm-up at SL 103°F (CH-47D/F: 5 min at 3559 lb/hour)
2. Take-off / HOGE (2 min)
3. Cruise out at best cruise speed, SL
4. Climb to 4000' MSL, 95°F
5. HOGE at 4000' MSL, 95°F (5 min)
6. Store drop (new external load drag = 0 ft²)
7. Descend to SL, 103°F
8. Cruise in at best cruise speed, SL
9. Reserves: the greater of 30 min loiter at SL or 10% mission fuel



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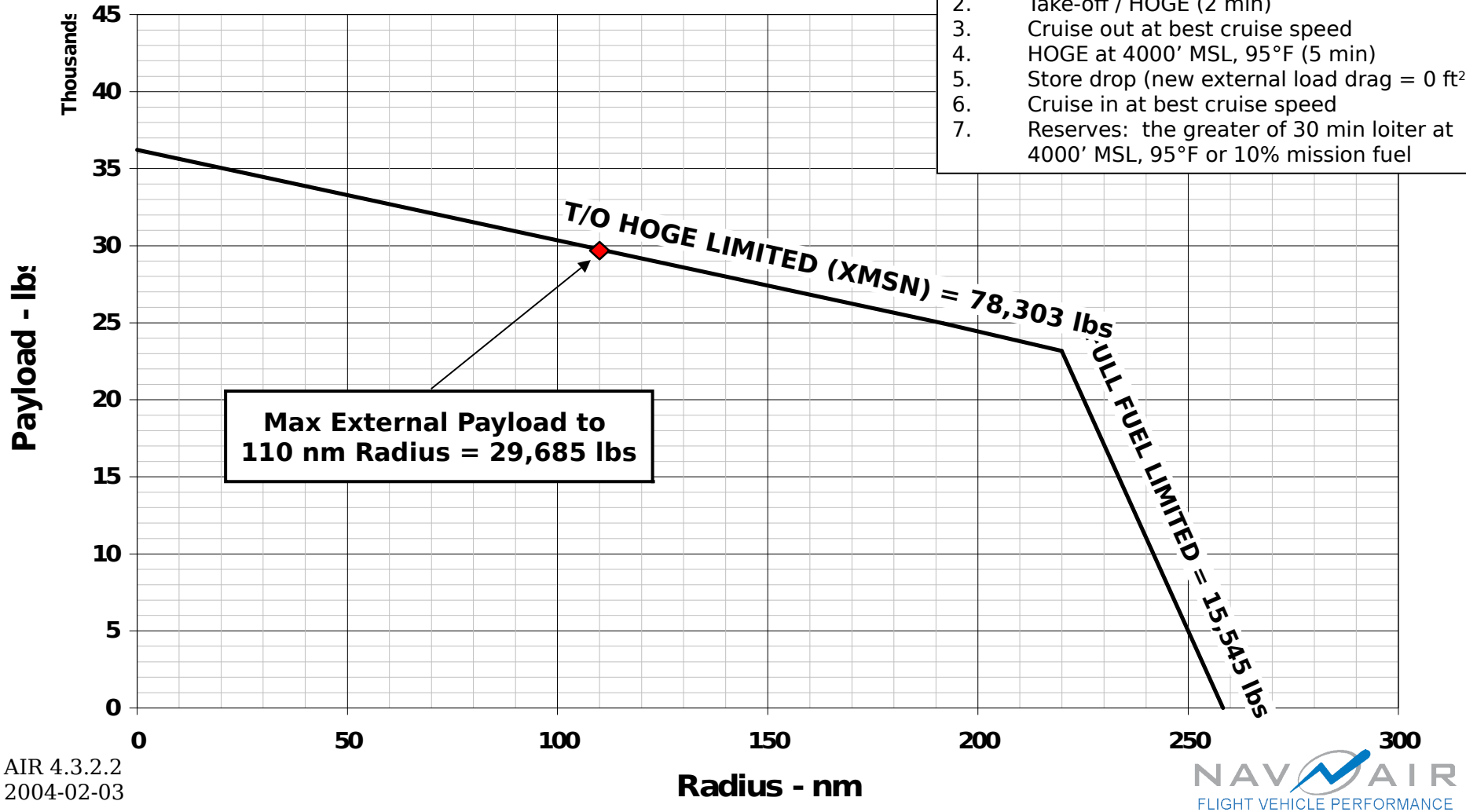
FLIGHT VEHICLE PERFORMANCE

CH-53X: JHL Profile 2

CH-53X
Max Structural GW = 80,000 lbs
Operating Weight Empty = 39,455 lbs, SAC 10/15/03
Fuel Flow 105%
95%*Spec engine pwr of (3) 6,000 SHP engines (installed HP)
CH-53E SPEC XMSN LIMITS
HOGE at 95% of spec engine power at 10 min Rating, 103% N_r
4th Gen Rotor Pwr Req'd Est., SAC 11/17/03
Clean Aircraft Fe = 68.92 sq ft, SAC 10/15/03

56 ft² Ext Load
4000' MSL 95°F

JHL Profile 2 Mission Description
1. Warm-up at 4000' MSL, 95°F (CH-53X: 5 min at 4667 lb/hour)
2. Take-off / HOGE (2 min)
3. Cruise out at best cruise speed
4. HOGE at 4000' MSL, 95°F (5 min)
5. Store drop (new external load drag = 0 ft²)
6. Cruise in at best cruise speed
7. Reserves: the greater of 30 min loiter at 4000' MSL, 95°F or 10% mission fuel



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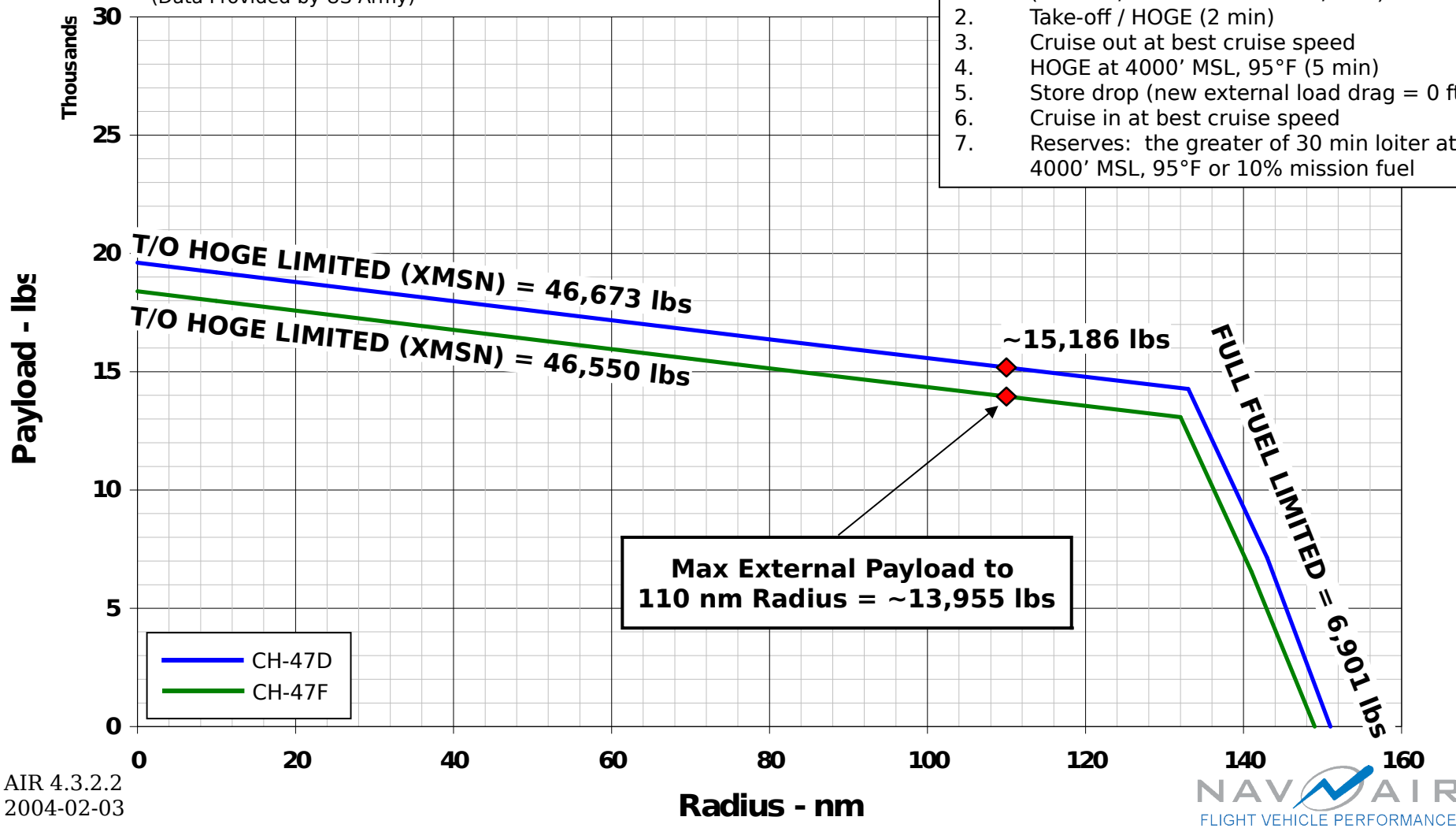
FLIGHT VEHICLE PERFORMANCE

CH-47D/F: JHL Profile 2

CH-47D/F
Max Structural GW = 54,000 lbs (wartime)
CH-47D OWE = 25,498 lbs
CH-47F OWE = 26,567 lbs
External Load Download = 0.008*GW
Fuel Flow 100%, GA714A min Spec
XMSN Limit = 7500 shp
HOGE @ MRP (10 min, 100% RPM)
(Data Provided by US Army)

56 ft² Ext Load
4000’ MSL 95°F

JHL Profile 2 Mission Description
1. Warm-up at 4000’ MSL, 95°F (CH-47D/F: 5 min at 3009 lb/hour)
2. Take-off / HOGE (2 min)
3. Cruise out at best cruise speed
4. HOGE at 4000’ MSL, 95°F (5 min)
5. Store drop (new external load drag = 0 ft²)
6. Cruise in at best cruise speed
7. Reserves: the greater of 30 min loiter at 4000’ MSL, 95°F or 10% mission fuel



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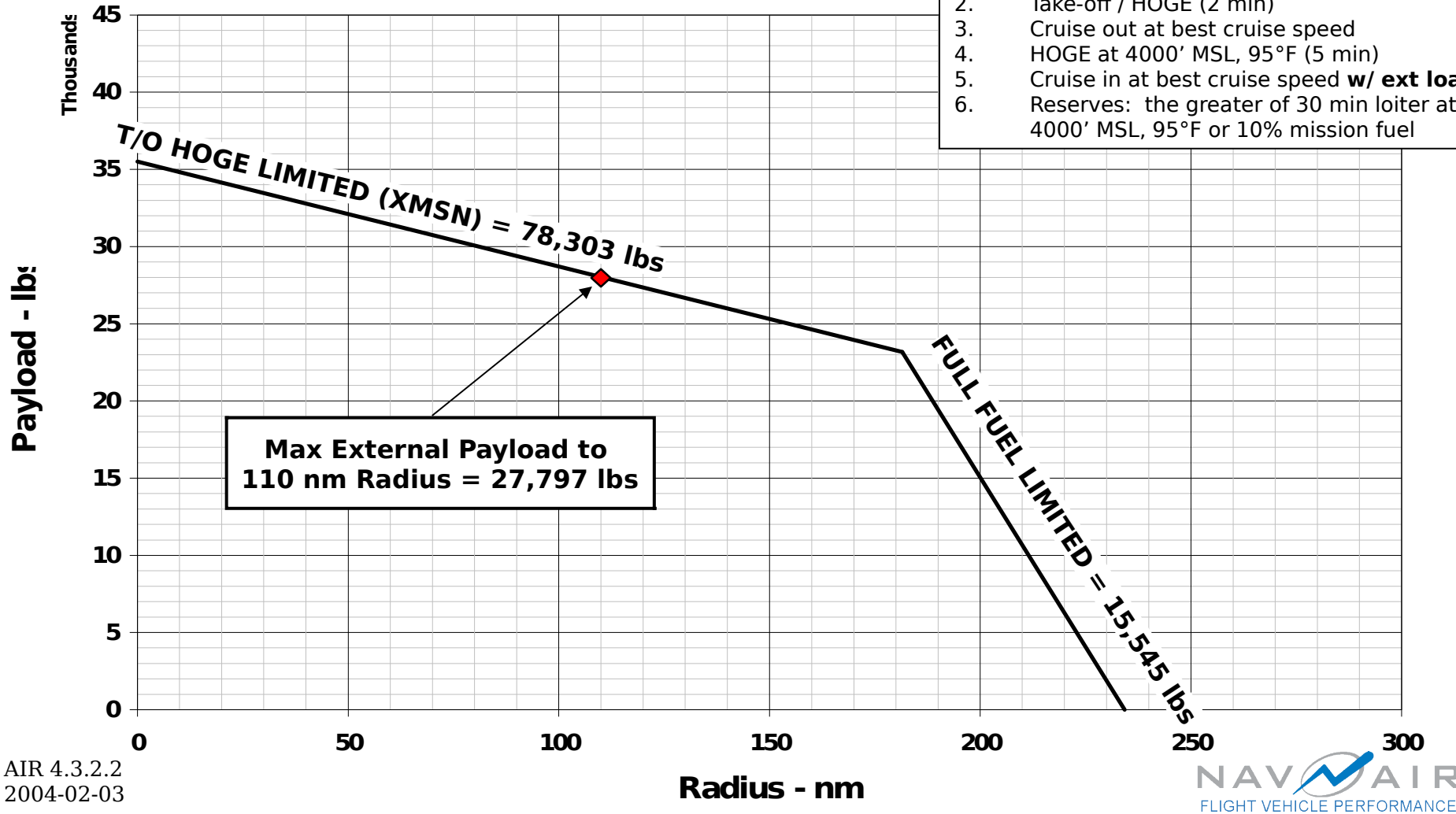
FLIGHT VEHICLE PERFORMANCE

CH-53X: JHL Profile 3 – External Load Retained

CH-53X
Max Structural GW = 80,000 lbs
Operating Weight Empty = 39,455 lbs, SAC 10/15/03
Fuel Flow 105%
95%*Spec engine pwr of (3) 6,000 SHP engines (installed HP)
CH-53E SPEC XMSN LIMITS
HOGE at 95% of spec engine power at 10 min Rating, 103% N_r
4th Gen Rotor Pwr Req'd Est., SAC 11/17/03
Clean Aircraft Fe = 68.92 sq ft, SAC 10/15/03

56 ft² Ext Load
4000' MSL 95°F

JHL Profile 3 Mission Description
1. Warm-up at 4000' MSL, 95°F (CH-53X: 5 min at 4667 lb/hour)
2. Take-off / HOGE (2 min)
3. Cruise out at best cruise speed
4. HOGE at 4000' MSL, 95°F (5 min)
5. Cruise in at best cruise speed **w/ ext load**
6. Reserves: the greater of 30 min loiter at 4000' MSL, 95°F or 10% mission fuel



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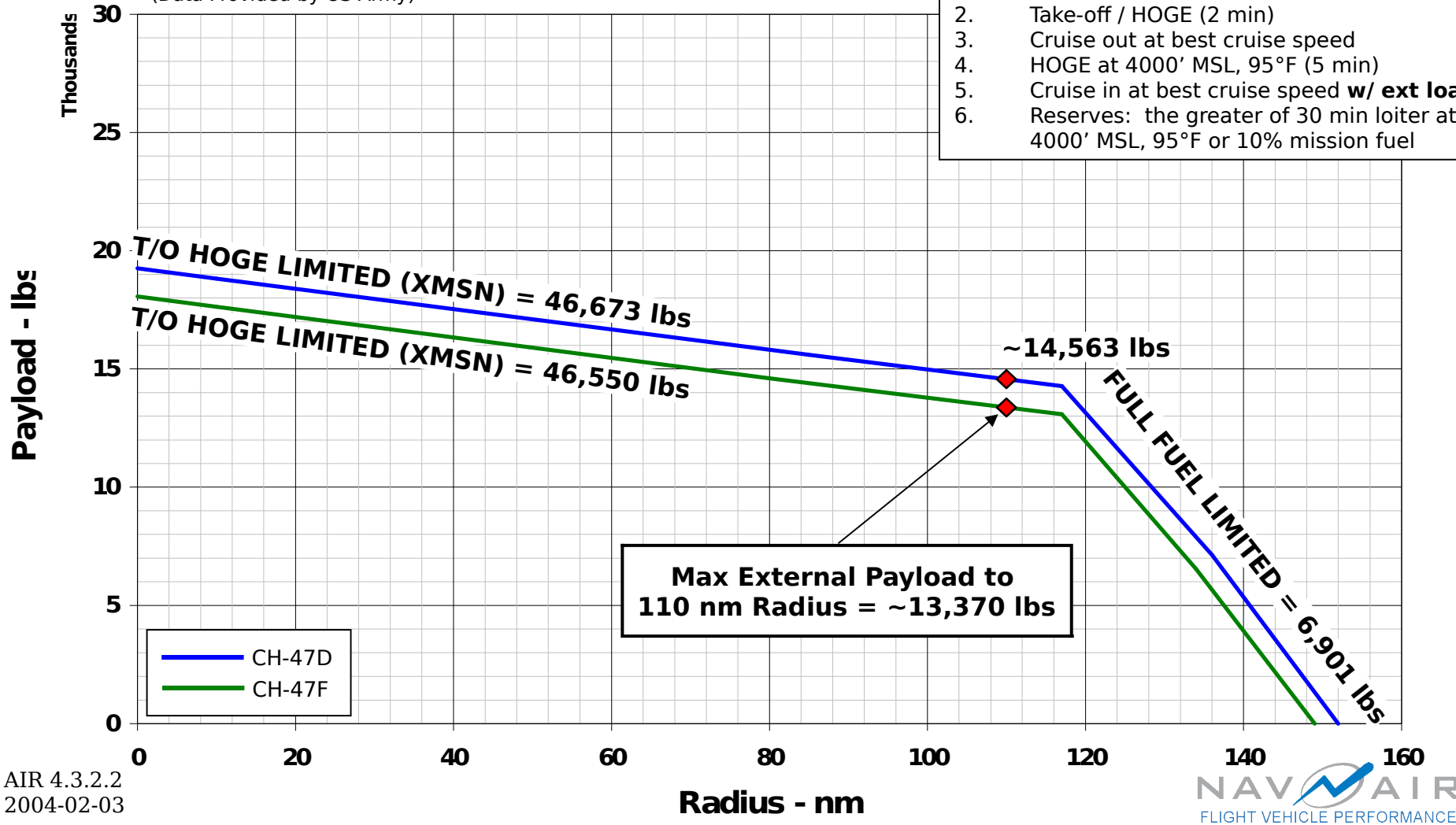
FLIGHT VEHICLE PERFORMANCE

CH-47D/F: JHL Profile 3 – External Load Retained

CH-47D/F
Max Structural GW = 54,000 lbs (wartime)
CH-47D OWE = 25,498 lbs
CH-47F OWE = 26,567 lbs
External Load Download = 0.008*GW
Fuel Flow 100%, GA714A min Spec
XMSN Limit = 7500 shp
HOGE @ MRP (10 min, 100% RPM)
(Data Provided by US Army)

56 ft² Ext Load
4000’ MSL 95°F

JHL Profile 3 Mission Description
1. Warm-up at 4000’ MSL, 95°F (CH-47D/F: 5 min at 3009 lb/hour)
2. Take-off / HOGE (2 min)
3. Cruise out at best cruise speed
4. HOGE at 4000’ MSL, 95°F (5 min)
5. Cruise in at best cruise speed **w/ ext load**
6. Reserves: the greater of 30 min loiter at 4000’ MSL, 95°F or 10% mission fuel



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